REMARKS

The absence of certified copies of the Japanese priority documents is noted. Attempts are being made to provide them.

I. Claims 13, 14 and 17 have been rejected under 35 USC 102(b) as being anticipated by Sandorff.

II. Claims 1-3,5-12 and 18-19 are rejected under 35 USC 103(a) as being unpatentable over Guastavino in view of Sandorff.

III. Claims 4, 15 and 16 are rejected under 35 USCS 103(a) as being unpatentable over Sandorff in view of Whitehouse.

35 USC 102(b) Rejection

I. Claims 13, 14 and 17 have been rejected under 35 USC 102(b) for essentially the same reason as set forth in Examiner's rejection mailed June 7, 2002. The remarks made in response to that rejection are believed to still be valid and are incorporated herewith by reference (Amendment filed 08/15/2002, pages 5-7).

The Examiner has relied on Sandorff, Fig. 1 column 5, lines 42 and 59 and column 6, lines 49-65 and column 7, lines 7-11 to anticipate claim 13 and 17. The figures show and the disclosure confirms the exact opposite structure from that claimed. Claim 13 requires "positioning" said aggregate pieces within said mold so that said aggregate pieces are in firm

contact with each other throughout said mold." With respect to Figs. 1 and 4, Sandorff clearly shows the "aggregate" to be spaced apart from each other and column 5, lines 59-60 states "A number of stones 35 are placed in the frame of the mold 20 so as to be closely spaced." (Emphasis added.) Spacing the stones teaches directly away from the invention and claim structure. On lines 48-49 Sandorff states "a cast concrete body behind the stone facing." The obvious reason being that the stones are to extend beyond the concrete and to be stones spaced by concrete and to be, and appear to be, stones laid like bricks spaced and held in place by concrete as if each stone were individually placed. As clearly shown in Figs. 2 and 3, and stated in column 6, lines 10-14: "as shown in FIGS. 2 and 3 is such that a downwardly - opening cavity 42 typically remains between adjacent stones and between the perimeter stones and the lower corners of the mold walls 22." Sand is packed between the stones and after the concrete is poured, the sand is removed (column 6, lines 14-48 and column 6, line 64 - column 7, line 6). There is no teaching that the stones 35 or the small stones of the concrete are placed in firm contact with one another and the specification defines aggregate to have a minimum circumference of 5 cm. Further, with respect to 35 USC 102(b), the examiner emphasizes the use of a concrete aggregate. To hold the stone of Sandorff in place, the structure of claim 13 is not anticipated by concrete because the claim calls for mortar to hold the aggregate together.

In any event, Claims 13 and 14 have been amended to eliminate many of the areas of disagreement due to different interpretations given to the claims and prior art.

Each of the following differences between Sandorff and the claims are believed to preclude a valid 35 USC 102 rejection.

As to claim 13:

A. Sandorff does not teach forming construction blocks that resist earthquakes. He teaches vertical aesthetic walls.

B. Sandorff does not teach use of aggregate pieces with a circumference in excess of 5 cm. placed within a mold lower extent positioned in firm contact with each other. He teaches spacing blocks from one another using sand.

C. Sandorff does not teach placing aggregate pieces in firm contact with mold sides. He uses sand to space his blocks from the mold walls.

D. Sandorff does not teach forming a construction block using packed contacting aggregate as a lower surface for supporting vertical loads. He teaches blocks used as an outer vertical component for a wall facing.

E. Sandorff does not teach forming a lower support surface using aggregate pieces in firm contact with each other to resist horizontal vibrations caused by earthquakes. He teaches spacing blocks within a mold lower surface for formation of a wall's vertical outer face.

As to dependent claims 14 and 17:

F. Sandorff does not teach positioning aggregate pieces of one block directly in contact with the aggregate pieces of an adjacent block.

G. Sandorff does not teach placing aggregate pieces in one block in contact with aggregate pieces in another block to transfer horizontal forces from one block into another block.

H. Sandorff does not teach placing a tube within the mold to act as a conduit for a prestress means. He teaches using "reinforcing rods" to lift the cured panel or to join panels together.

Each and every one of these difference precludes a valid 35 USC 102(b) rejection. The requirements for 35 USC 102 rejections were addressed in the amendment filed 08/15/2002 and are incorporated herein by reference.

35 USC 103(a) Rejection

II. Claims 1-3, 5-12 and 18-19 are rejected under 35 USC 103(a) as being unpatentable over Guastavino in view of Sandorff.

This rejection is the same rejection made in the Office Action mailed 06/07/2002 and responded to in your applicant's amendment filed 08/15/2002 on pages 7-13. The remarks made there are still considered to be valid and are incorporated here by reference.

Claims 1, 5 and 6 have been amended to amplify the differences between the invention and prior art. In addition, claims 13 and 18 have been amended in a similar manner. The differences between the invention and references are significant.

Your applicant has defined aggregates in his specification. The grains of sand used to space the stones of Sandorff do not form a final part of the lower surface. They are removed so

that the stones protrude as spaced blocks. When the mold is removed, the horizontal bottom blocks are turned vertically to form the aesthetic wall of Fig. 4. As best shown in Fig. 8, neither the stones 35 or the "small stones" of the concrete are placed in contact with each other.

> "Whereas the stones in mold 20 are tightly packed and supported on bottom 24 of mold 20 and spaces 42 between them are filled with packed sand 44, the concrete 50 flows and is raked over stones 35 and fills the upward facing cavities 52 between the stones. The concrete 50 cannot flow down to the bottom 24 of the mold, except that the more liquid portion of concrete 50 (i.e. cement and water) mixes with sand 44 between stones 35 and penetrates, for example by a half inch to an inch (1.2-2.5 cm.), into the depth of the packed sand. From that point to bottom 24 of mold 20, sand 44 remains unbonded and will fall away or can be washed off after curing."

The sand that does not fall away or is not washed away "resembles mortar joints between the stones." (Column 6, lines 49-column7, line 6).

Claim 1 has been amended to clearly exclude sand and the small stones used in concrete from being considered the aggregate under consideration. Further, the positioning and function of the invention blocks has been emphasized.

(1) The patent to Sandorff, insofar as the arch is concerned, is to a non-analogous art.

(2) There is no teaching within either Sandorff or Guastavino for making the combination.

(3) This is a prima facie indication the rejection is made from prohibited hindsight.

Sandorff does not teach an earthquake resistant structure for supporting vertical forces. He teaches a vertical structure that looks good.

Sandorff does not teach the use of aggregate pieces having a circumference in excess of 5

cm. packed in direct firm contact with one another. He teaches blocks that are spaced from each other (Fig. 3).

Sandorff does not teach forming the lower surface of a construction block with aggregate pieces in direct firm contact with each other. He teaches having blocks vertically spaced from each other with no blocks near the lower surface (Fig. 4).

Sandorff does not teach construction blocks providing a strong vertical support applied to an upper surface. He only provides for an aesthetic vertical wall.

Sandorff does not teach a strong resistance to horizontal vibrations from an earthquake using aggregate in direct firm contact with each other.

As to claim 1:

A. Guastavino does not teach aggregate pieces within a block.

B. Guastavino does not teach aggregate pieces within the lower extent of a block.

C. Guastavino does not teach aggregate pieces in excess of 5 cm. circumference within a block.

D. Guastavino does not teach aggregate pieces within a block held in place by mortar above the aggregate pieces.

E. Guastavino does not teach structure designed to resist horizontal vibration caused by earthquakes.

F. Guastavino does not teach horizontal vibration from earthquakes transferred from one block to another.

G. Guastavino does not teach plural blocks with aggregate pieces in one in contact with aggregate pieces in another.

As to the claims depending from claim 1:

Claims 2, 3 and 5 require blocks placed against one another with aggregate pieces of the blocks in direct contact. Neither Guastavino nor Sandorff teach this structure.

Claims 6 and 18 require both aggregates of 5 to 20 cm. circumference and aggregates over 20 cm. circumference. Neither Guastavino nor Sandorff teach such aggregates.

Claim 7 requires a tube within the block. Neither Guastavino nor Sandorff teach a tube within a block.

Claims 8-12 and 19 require specific materials. Neither Guastavino nor Sandorff teach these materials.

III. Claims 4 and 15 are rejected under 35 USC 103(a) as being unpatentable over Sandorff in view of Whitehouse.

This rejection is essentially the same as that made in the Office Action mailed 06/07/2002 and responded to in an Amendment filed 08/15/2002 on pages 14-17. The remarks made there are still considered to be valid and are incorporated here by reference.

(1) The kiln structure of Whitehouse is non analogous art insofar as the load support earthquake resistant arch of the invention is concerned. (2) There is no teaching within either Whitehouse nor Sandorff for the modification suggested. (3) This is a prima facie indication that the rejection is made using the prohibited hindsight combining of references.

Claim 4 depends from claim 3 and claim 15 depends from claim 14. The deficiencies of Sandorff are set forth with respect to these claims. Claim 4 requires blocks with the inner sides abutting and outer ends spread with concrete between the outer ends. Neither Guastavino nor Sandorff specifically teach this structure.

Whitehouse does not teach a block having earthquake resistance.

Whitehouse does not teach a block having aggregate pieces adjacent the lower surface.

Whitehouse does not teach aggregate pieces having a circumference of over 5 cm. circumference.

Whitehouse does not teach aggregate pieces placed firmly in direct contact with each other.

Whitehouse does not teach aggregate pieces at the lower and side surfaces.

Whitehouse does not teach aggregate pieces with mortar on the upper surface to hold the aggregate pieces in place.

Whitehouse does not teach adjacent blocks with aggregate pieces in contact with each other.

Whitehouse does not teach blocks designed to support vertical loads.

Whitehouse does not teach blocks designed to transmit horizontal earthquake vibrations between the blocks.

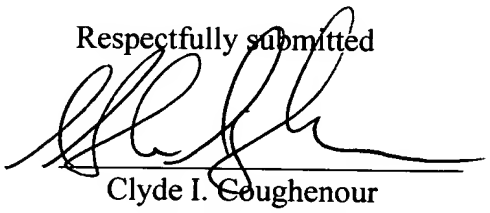
Whitehouse does not teach forming an arch with adjacent blocks having aggregate pieces in contact with each other.

Whitehouse does not teach adjacent blocks with adjacent blocks lower ends having aggregate pieces in contact and spaced upper ends with concrete between the blocks in the space.

## CONCLUSION

The claims in this application are not anticipated by or rendered obvious by any reference or combination of references cited by the Examiner and this application is believed to be in condition for allowance. Such action is earnestly solicited.

Respectfully submitted



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Marked copy of the changes made in the claims.

1. An earthquake resistant structure comprising:

a construction block having an upper surface and a lower surface and sides surfaces;

aggregate pieces within said block lower extent adjacent to said lower surface and forming the major extent of said lower surface;

said aggregate pieces each having a circumference in excess of 5 cm and being in direct firm contact with one another;

said aggregate pieces extending from and between said construction block sides;

said aggregate pieces held in contact with each other by mortar above said aggregate pieces [so that impact and stress forces applied to said construction block are transferred directly from one aggregate piece to another throughout said construction block.] so that said construction block provides a strong support for vertical forces applied to said upper surface and a strong resistance to horizontal vibrations of an earthquake applied to said side surfaces by transfer forces directly from one aggregate piece to another throughout said construction block lower extent.

3. An earthquake resistant structure as in claim 1 wherein:

said construction block is formed in the shape of a parallelepiped;

a plurality of said blocks is placed side by side adjacent [on] to one another in the shape of an arch with said aggregate pieces of one said construction block contacting aggregate pieces in an adjacent said construction block.

4. An earthquake resistant structure as in claim 3 wherein:

said parallelepiped blocks placed in the form of an arch have their intrados ends abutting each other and their extrados ends spaced from each other;

concrete is within a [said] space between said blocks extrados ends.

5. An earthquake resistant structure as in claim 1 wherein:

said construction block is formed in the shape of a tetrahedron with two essentially triangular sides and two parallel sides;

a plurality of said construction blocks is placed adjacent to one another such that said aggregate pieces on adjacent surfaces of one block are in direct contact with aggregate pieces of said adjacent block such that forces on one block are transferred directly through said aggregate pieces of [material from] one said block to said aggregate pieces of [another] said adjacent block along their [entire] contacting surface.

6. An earthquake resistant structure as in claim 1 wherein:

said aggregate material consists of a coarse aggregate material having a circumference in excess of 20 cm. and a fine aggregate material having a circumference between 5 and 20 cm. in intimate contact with each other throughout said block.

13. A process for forming construction blocks to resist earthquakes comprising:

providing a mold having an upper extent and a lower extent in the desired shape of a construction block;

placing aggregate pieces having a circumference in excess of 5 cm. within said mold lower extent;

positioning said aggregate pieces within said mold lower extent so that said aggregate pieces are in firm contact with said mold sides and in firm contact with each other throughout said mold to form a lower surface;

pouring mortar over said positioned aggregate pieces so as to maintain their position and form an upper surface and form a block having a strong resistance to vertical forces applied to said upper surface and a resistance to horizontal vibrations of an earthquake by transferring forces applied directly from one aggregate piece to another;

removing said block from said mold.

14. A process for forming construction blocks as in claim 13 including:

forming said block in the shape of a parallelepiped;

placing a plurality of said blocks in side by side contacting relationship such that said aggregate pieces in one block contacts said aggregate pieces in an adjacent block so that horizontal force applied to one said block is transferred directly from said aggregate pieces in said one block to said aggregate pieces in said adjacent block.

15. A process for forming construction blocks as in claim 14 including:

forming said blocks into the shape of an arch such that said blocks abut each other at their intrados ends and are spaced from each other at their extrados ends;

filling a [said] space at said extrados ends with concrete to hold said blocks in place.

16. A process for forming construction blocks as in claim 13 including:

forming a support structure in the shape of an arch;

placing said mold on one end of said support structure;

forming said block in place on said support structure;

curing said mortar on said supporting structure;

removing said mold and using it to form another said block adjacent to said previously formed block to manufacture said blocks adjacent to one another with said aggregate pieces of one said block in contact with said aggregate pieces of an adjacent said block.

18. A process for forming construction blocks as in claim 13 including:

said aggregate pieces including both coarse aggregate pieces in excess of 25 cm. circumference and fine aggregate pieces between 5 cm. And 15 cm. circumference;

placing both said coarse aggregate pieces and said fine aggregate pieces within said mold such that said fine aggregate pieces fit[s] between spaces between said coarse aggregate pieces and such that said fine aggregate pieces and said coarse aggregate pieces are in intimate contact with each other.